

BEST AVAILABLE COPY

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification 6 : A23G 3/30</p>	<p>A1</p>	<p>(11) International Publication Number: WO 99/62354</p> <p>(43) International Publication Date: 9 December 1999 (09.12.99)</p>		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>(21) International Application Number: PCT/US98/11741</p> <p>(22) International Filing Date: 5 June 1998 (05.06.98)</p> <p>(71) Applicant (for all designated States except US): WM. WRIGLEY JR. COMPANY [US/US]; 410 North Michigan Avenue, Chicago, IL 60611 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): YATKA, Robert, J. [US/US]; 15127 South St. Andrews Court, Orland Park, IL 60462 (US). TOWNSEND, Donald, J. [US/US]; Apartment 10, 902 Joliet Road, LaGrange, IL 60525 (US). JOHNSON, Sonya, S. [US/US]; 928 58th Street, LaGrange Highlands, IL 60525 (US). GREENBERG, Michael, J. [US/US]; 1633 Brighton Court, Northbrook, IL 60062 (US). SITLER, Daniel, J. [US/US]; 2805 Kincaid Drive, Woodridge, IL 60517 (US).</p> <p>(74) Agent: SHURTZ, Steven, P.; Brinks Hofer Gilson & Lione, NBC Tower, Suite 3600, 455 North Cityfront Plaza Drive, Chicago, IL 60611-5599 (US).</p> </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KB, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p style="text-align: center;">Published <i>With international search report.</i></p> </td> </tr> </table>			<p>(21) International Application Number: PCT/US98/11741</p> <p>(22) International Filing Date: 5 June 1998 (05.06.98)</p> <p>(71) Applicant (for all designated States except US): WM. WRIGLEY JR. COMPANY [US/US]; 410 North Michigan Avenue, Chicago, IL 60611 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): YATKA, Robert, J. [US/US]; 15127 South St. Andrews Court, Orland Park, IL 60462 (US). TOWNSEND, Donald, J. [US/US]; Apartment 10, 902 Joliet Road, LaGrange, IL 60525 (US). JOHNSON, Sonya, S. [US/US]; 928 58th Street, LaGrange Highlands, IL 60525 (US). GREENBERG, Michael, J. [US/US]; 1633 Brighton Court, Northbrook, IL 60062 (US). SITLER, Daniel, J. [US/US]; 2805 Kincaid Drive, Woodridge, IL 60517 (US).</p> <p>(74) Agent: SHURTZ, Steven, P.; Brinks Hofer Gilson & Lione, NBC Tower, Suite 3600, 455 North Cityfront Plaza Drive, Chicago, IL 60611-5599 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KB, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p style="text-align: center;">Published <i>With international search report.</i></p>
<p>(21) International Application Number: PCT/US98/11741</p> <p>(22) International Filing Date: 5 June 1998 (05.06.98)</p> <p>(71) Applicant (for all designated States except US): WM. WRIGLEY JR. COMPANY [US/US]; 410 North Michigan Avenue, Chicago, IL 60611 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): YATKA, Robert, J. [US/US]; 15127 South St. Andrews Court, Orland Park, IL 60462 (US). TOWNSEND, Donald, J. [US/US]; Apartment 10, 902 Joliet Road, LaGrange, IL 60525 (US). JOHNSON, Sonya, S. [US/US]; 928 58th Street, LaGrange Highlands, IL 60525 (US). GREENBERG, Michael, J. [US/US]; 1633 Brighton Court, Northbrook, IL 60062 (US). SITLER, Daniel, J. [US/US]; 2805 Kincaid Drive, Woodridge, IL 60517 (US).</p> <p>(74) Agent: SHURTZ, Steven, P.; Brinks Hofer Gilson & Lione, NBC Tower, Suite 3600, 455 North Cityfront Plaza Drive, Chicago, IL 60611-5599 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KB, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p style="text-align: center;">Published <i>With international search report.</i></p>			
<p>(54) Title: METHOD OF CONTROLLING RELEASE OF N-SUBSTITUTED DERIVATIVES OF ASPARTAME IN CHEWING GUM AND GUM PRODUCED THEREBY</p> <p>(57) Abstract</p> <p>The present invention includes a method for producing a chewing gum with a modified release sweetener selected from the group of N-substituted derivatives of aspartame, particularly neotame, as well as the chewing gum so produced. The modified release neotame or other N-substituted derivative of aspartame sweetener is obtained by physically modifying the sweetener properties by coating and drying. Neotame or another N-substituted derivative of aspartame sweetener is coated by encapsulation, partially coated by agglomeration, entrapped by absorption or extrusion, or treated by multiple steps of encapsulation, agglomeration, absorption, or extrusion. The coated sweetener is then co-dried and particle sized to produce a release-modified high-intensity sweetener. When incorporated into the chewing gum, these particles are adapted to enhance the shelf stability of the sweetener and/or produce a modified release when the gum is chewed.</p>				

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

METHOD OF CONTROLLING RELEASE OF
N-SUBSTITUTED DERIVATIVES OF ASPARTAME IN
CHEWING GUM AND GUM PRODUCED THEREBY

5 BACKGROUND OF THE INVENTION

The present invention relates to methods for producing chewing gum. More particularly the invention relates to producing chewing gum containing high-potency sweeteners which have been treated to control their release and enhance shelf-life stability.

10 In recent years, efforts have been devoted to controlling release characteristics of various ingredients in chewing gum. Most notably, attempts have been made to delay the release of sweeteners and flavors in various chewing gum formulations to thereby lengthen the satisfactory chewing time of the gum. Delaying the release of sweeteners and flavors can also avoid an
15 undesirable overpowering burst of sweetness or flavor during the initial chewing period. On the other hand, some ingredients have been treated so as to increase their rate of release in chewing gum.

In addition, other efforts have been directed at perfecting the use of high-potency sweeteners within the chewing gum formulation, to thereby
20 increase the shelf-life stability of the ingredients, i.e. the protection against degradation of the high-potency sweetener over time.

A recently identified class of high potency sweeteners are N-substituted derivatives of aspartame. Some of these sweeteners may give a long lasting sweetness release when used in chewing gum, while others may
25 give a fast release that may not be compatible with the release of flavor. By modifying N-substituted derivatives of aspartame by various methods, a

ERROR: ioerror
OFFENDING COMMAND: image

STACK:

-savelevel-